Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

clasping them. July 12th, 10 o'clock, A. M., nearly all the bristles are curving toward the bits of apple, but very few of the glands are touching them.

THE SLATES OF THE TACONIC MOUNTAINS OF THE AGE OF THE HUDSON RIVER OR CINCINNATI GROUP.*

BY PROFESSOR J. D. DANA.

In my study of the Stockbridge limestone and the associated rocks in Berkshire county, Massachusetts, I have found that the ridges are often, if not always, synclinals. They consist of the slates or schists (and sometimes quartzite) overlying the limestone; and in the downward flexures of the limestone, during the period of disturbance and metamorphism which made the mountains, the overlying beds or part of them were folded together into a compact mass which has withstood degrading agents, while the same beds in the anticlinals or upward flexures were extensively broken and have disappeared. The slate ridges are then nothing but squeezes of the slate formation between the sides of a limestone synclinal.

The Taconic mountains lie on the western border of the Berkshire limestone region; and, in general, the dip of the limestone, as well as of the Taconic slates is to the eastward, and hence the slates being underneath are seemingly the older. They are actually so, unless the Taconic ridges are also synclinals, with an eastwardly inclined axis, like some of the Berkshire mountains. Until recently I had regarded the apparent order of superposition as the true order of succession, that is, I had supposed that the limestones were newer than the Taconic slates. The conclusion seemed to be confirmed by finding at different places the slates and limestone with the same high easterly dip, the slates undermost.

But a few weeks since, on an examination of the eastern base of Mt. Washington, the highest part of the Taconic range in southwestern Massachusetts, along the road just east of the highest summit, called Mt. Everett, 2,634 feet in height above the sea, the limestone of the Sheffield plain was found to have, instead of the usual easterly dip, a *westerly* dip, and this continued up the slopes of the mountain as far as the limestone extended, about 120 feet above the plain and there the limestone was seen to pass directly beneath the slates of the mountain, these having the same dip and strike, the dip 20° to 25.° Thus the limestone was seen to descend under Mt. Washington and the slates to be the superior rock. Following along the base of the mountain northward, this dip of the Stockbridge limestone under the mountain was found to continue for nearly four miles, that is along the whole eastern front.

---

* Read at the Portland Meeting of the Amer. Assoc. Adv. Science.

These facts seem to prove that the limestone of Berkshire goes under Mt. Washington and comes up in the great limestone of Copake on the west side of the Taconic range.

I might show that there are probably two close-pressed synclinals in the Mt. Washington plateau (which is four to five miles broad), with steep easterly inclined axes, and that these synclinals are synclinals of slate riding over a single broken synclinal of limestone; that, to the north of the mountain, where the mountain descends to the limestone plains of Egremont, these synclinals become separated and include an anticlinal of limestone, the limestone of the anticlinal appearing in the intermediate valley while the ridges (synclinals) are slate; and that the two synclinals have an eastwardly inclined axis, the dip being very steep to the eastward. But to explain fully would require diagrams, and I leave the details for another place.

Graylock in northwestern Massachusetts, to the east of the line of the Taconic, and 3500 feet in height, whose rocks are much like those of Mt. Washington, is described by Emmons as a synclinal; and, after a survey of the facts on the ground, observing the westerly dip of the limestones of the eastern slopes near South Adams, and the easterly dip on the western slopes near the entrance to the "Hopper," as the great central valley is called, I am satisfied that he was right. The dip at the summit and most other parts is very steep to the eastward. It appears then to be a result, like many other Berkshire Mountains, of a squeeze of the slates in a synclinal; and like Mt. Washington it is probably not a simple synclinal. It may be a double one, with the Hopper corresponding to the intermediate anticlinal, the beds of the whole having a high dip to the eastward owing to the eastward inclination of the axis of the folds. At North Adams, in the ridge of slate just west of the village, the limestone and slate both dip eastward, there being here the north end of one of the inclined synclinals.

The making of the highest summits of the Taconic region appears thence to have depended on this doubling of the folds. It becomes exceedingly difficult in such cases to ascertain the true thickness of the slate formation.

In view, then, of the facts stated in my former article with regard to the age of the limestone and its overlying rocks, it is not easy to avoid the conclusion that *the Taconic slates are Hudson river slates*, as long since held by the Professors Rogers; and, also, that the rocks on which Prof. Emmons, in his New York Geological Report, first based his Taconic system, or out of which he devised it, are after all nothing but the Hudson river and Trenton groups, with the underlying Chazy. The Trenton limestone and Hudson River or Cincinnati groups, which properly constitute one series in American Geological History, are then *the true Taconic system.*

HINTS FOR THE PROMOTION OF ECONOMIC ENTOMOLOGY IN THE UNITED STATES.*

BY JOHN L. LECONTE, M.D.

It is indeed a most gratifying evidence of the increasing interest in the department of zoology which we cultivate, that the entomologists, now in connection with the "American Association for the Advancement of Science," are sufficiently numerous to form a separate sub-section, and enough in earnest to make the meetings of the section of value to attract our widely scattered students.

I hail with joy the opportunity of being present at this meeting, and the more so, because absence from the country has prevented me from being with you on previous occasions, when you assembled to deliberate on the means necessary for the promotion of our favorite science; to communicate to each other that which you have done of best during the year, and call on your col-

---

*Read at the Portland Meeting of the Amer. Assoc. Adv. Science.